

Public and Worker Attitudes Toward Carcinogens and Cancer Risk

Summary of a survey conducted by Cambridge Reports, Inc.

Some American attitudes about cancer are described in this national public opinion survey completed in April, 1978. The study was done by Cambridge Reports, Inc., a public opinion research firm in Cambridge, Mass., which interviewed a representative sample of adults in various parts of the United States. In addition, the firm questioned chemical plant workers and people who live near chemical plants to learn how their association with chemical companies affects their opinions.

Shell Oil Company funded the study to gain a better understanding of public attitudes on cancer in general, occupational risks of cancer, and toward the cancer prevention policies being considered by federal agencies.

Results of the survey showed people do not believe themselves well informed about cancer. (And information from cancer authorities indicates Americans are correct in thinking they are uninformed about the disease. For example, sixty percent of them feel the amount of cancer is increasing. But according to the American Cancer Society, age-adjusted death rates of most forms of cancer have declined or remained about the same during the past 25 years. The major exception is the lung cancer death rate which has increased significantly. The Cancer Society also reports that the overall incidence of the disease has decreased slightly in the past 25 years.)

When asked about cancer causes, people named cigarettes as the major cause, followed by food additives and pollution. Workplace exposure was ranked low among cancer causes. (The National Cancer Institute reports the leading causes of cancers today are diet, tobacco, and radiation in the form of sunshine and x-rays.)

Although chemical plant workers are significantly more likely than other workers to view their jobs as dangerous, their most immediate concern was identified as toxic or caustic chemicals rather than potential cancer-causing chemicals. Only 11 percent of chemical workers felt it was "extremely likely" they would be exposed to cancer-causing chemicals. Smoke and fumes were identified as the most likely health hazards chemical workers would face.

About two-thirds of all workers surveyed believe the right amount of effort is already being made to improve workplace safety. Safety in the average workplace has improved during the past five years according to 69 percent of chemical workers and 54 percent of all workers interviewed. Only 8 percent of workers believed safety standards are declining.

Employer efforts to promote health and safety standards are ranked as excellent or good by 82 percent of chemical workers and 75 percent of all workers questioned. When asked who was responsible for protecting the worker from exposure to cancer-causing substances, a majority of both groups put the responsibility squarely on the employer.

Shell is providing summaries of the survey to government agencies and other interested organizations.

Executive Summary

by Cambridge Reports, Inc.

This survey shows clearly that the American people are concerned about cancer as a disease and worried about the possibility of getting it themselves. Most Americans would support increased efforts to limit exposure to cancer-causing substances, but there is considerable division about where to draw the line and how high a price should be paid for this protection.

The major objectives of this survey were:

1. To measure public awareness and knowledge of cancer and cancer risk with particular emphasis on understanding public understanding of the "causes of cancer."
2. To examine public and chemical worker knowledge and attitudes toward the chemical industry and the role the industry may or may not be playing in "causing" cancer risk among the public in general and particularly among industry employees and neighboring citizens.
3. To measure public and worker views on various public policy initiatives that could be taken to reduce cancer risk, including the recently proposed OSHA generic cancer standards.
4. To focus on the dynamics of risk/benefit trade-offs in the formulation of attitudes toward carcinogens and cancer risk, specifically the distinction between voluntary and involuntary exposure and the issue of *choice* in relation to cancer risk.
5. To analyze what efforts might be undertaken to help increase public understanding of the carcinogen and cancer risk issue.

Background on Cancer

In terms of concern about disease, we see:

- Heart disease and cancer are the diseases most Americans expect to contract.
- Chemical plant workers and chemical plant neighbors are slightly more likely than the general public to feel that they are likely to contract cancer.
- Only 28 percent of the population feel "very well informed about cancer." Thus, despite concern, most Americans admit they have not informed themselves about the disease. This becomes important when we examine some types of cancer policies that involve relying on an informed public to make its choices and decisions.

One of the key issues in cancer policy is whether the actual amount of the disease is increasing or decreasing since that clearly colors the amount of effort that is needed to fight it.

- Sixty percent of the population feel that the amount of cancer in this country is increasing.
- Only 17 percent feel that there is a lot of truth to the idea that the increase is primarily due to an aging population.
- Forty-six percent do feel that there is a lot of truth to the idea that improved medical science and detection help explain the apparent increase.
- Most Americans reject the idea that if one takes into account the impact of aging, cancer is declining. One American in six would still reject this idea if they were told it by the American Cancer Society; while 46 percent of the population would accept it.

Turning to the causes of cancer, we see:

- Cigarettes are clearly blamed as the major cause of cancer; food additives are in second place, followed by pollution.
- When respondents were asked to rank a list of possible causes of cancer, workplace exposure ranked second to last. However, when asked where government might be effective in reducing cancer, the workplace jumped to third. Thus, while respondents don't see it as a particularly large cause of cancer, they do feel it is a place where public policy can have an impact.
- Finally, smoking, although identified as the leading cause of cancer, was also seen as an area where government might not be effective in actually reducing the risk.

We tried to look more closely at attitudes toward the workplace as a cause of cancer:

- Fifty-six percent of our respondents agreed that the workplace was a significant source of exposure to cancer-causing substances. However, only 4 percent of the respondents felt it caused "most" of the cancer and only another 18 percent felt it even caused a "great deal" of cancer.
- Chemical plant workers were slightly less likely than the general public to identify the workplace as a cause of cancer.
- When confronted with the estimate that one-quarter of the public is exposed to cancer-causing substances in the workplace, most respondents accepted this as "about

right," although over one in four felt it was too high an estimate, and virtually no one felt it was too low. Chemical plant workers were more likely than the general public to feel that the estimate was too high.

- However, if it were true, 72 percent of the respondents felt it was very important that something be done about it.
- Turning from exposure to actual cancers, we find that over one-half of the public (56 percent) feels it would still be very important if instead of 25 percent exposure, we talk of 3 percent to 6 percent of cancer being caused by workplace exposure.

Given this background on what people feel about cancer and where they think it comes from, we went on to ask them about some policy implications. The first of these involved the distinction between voluntary and involuntary exposure to carcinogens.

- People were just about evenly divided about whether most cancer-causing substances were things people chose to use, such as cigarettes, or things that people were involuntarily exposed to, such as pollutants.
- Two-thirds of the public agreed, however, that the government ought to treat substances that were voluntarily used differently from substances to which they were involuntarily exposed.
- Only 23 percent would support an outright ban on all cancer-causing substances while 72 percent reject this idea and say people should be allowed to choose for themselves.
- In a contradictory turnabout, however, 72 percent also endorse a proposition similar to the content of the Delaney Amendment which said "no substance" could be added to any food or medicine if it were known to cause cancer in man or animal.

This contradiction simply points up the profound ambivalence Americans have about the whole question of choice. Most Americans seem to feel that making informed choices is the best way to run things in theory. In practice, however, they have severe doubts about its workability and tend to back off.

- Forty-eight percent feel most people won't take the time to inform themselves to make reasonable choices. Thus, the government has to act; only 38 percent reject this idea.
- Seventy-one percent claim that they personally will get well informed, but only 36 percent trust "most" people to do so.
- Only 24 percent feel confident that they are informed enough today to make informed choices.

In another complication, we find that 59 percent would favor allowing individual choice for substances that have "real" benefit such as saccharin for diabetics but reject allowing choice for things without "real" benefits such as food coloring.

Still another issue in the whole cancer debate is the question of testing. The saccharin controversy produced a huge amount of publicity ridiculing the testing process. Despite this we find that 38 percent of the public finds the testing process valid and only 18 percent question it, although this is still a fairly significant amount of skepticism since most Americans were not well informed enough about the testing procedure to have an opinion on it. However, most Americans agreed with the idea that it is very important to have accurate testing procedures.

One side issue on testing is whether each suspected carcinogenic substance should have to be tested individually or whether it is enough to establish classes of substances that should be regulated as a class. As on other issues, Americans hold somewhat contradictory attitudes on this issue:

- Fifty-one percent agree that we should have class or generic classification because substance-by-substance testing is too slow;
- Yet, by a two-to-one margin — 44 percent to 21 percent — Americans agree that generic classification and regulation is an oversimplification, and
- By a nearly three-to-one margin, they agree with the idea it is unfair.

It seems quite clear that most people hold no firm opinions on this issue one way or the other.

The Environment

Having established this background on what Americans know and feel about cancer today, we went on to look at how they feel about the impact of chemical plants on their environment and the possible cancer risks involved. Our obvious focus in this section was on the neighbors of chemical plants.

- While most Americans felt that their own neighborhoods were better for their personal health, or at worst, the same as those in the rest of the country, neighbors of chemical plants were inclined to feel that their neighborhoods were worse for their health.
- Industry in the area and pollution in general were cited as the principal reasons for this worsened health picture.

We then asked respondents to rank both their level of concern with and likelihood of experiencing five possible environmental problems — unpleasant fumes and smells, sickness-causing chemicals, cancer-causing chemicals, disruptive noise and solid particulate waste. We found that the general population, the neighbors, and the chemical plant workers all rated exposure to sickness-causing chemicals and cancer-causing substances highest on both the concern and the likelihood of exposure scales. Furthermore, while neighbors of chemical plants were more concerned about all five problems than the general public, their increase in concern about cancer-causing exposures was greater than their increased concern about the other problems.

It should be noted that while chemical plant neighbors expressed great concern over cancer-causing exposure, only one respondent in four rated it extremely likely that he or she would, in fact, be exposed to cancer-causing chemicals.

The Workplace

We now come to the major focus of this survey — the relationship between the workplace and cancer. Much of our focus in this section was on the subsample of respondents who were active chemical workers. Before looking closely at them though, we wanted to put their problems into perspective with those of all American workers. To do this, we used the subsample of the national survey that consisted of full-time workers. The most striking finding was that chemical plant workers are significantly more likely than other workers to view their jobs as dangerous.

- Fifty-one percent of the chemical workers see safety problems on their jobs while only 30 percent of all workers do.
- Forty-eight percent of the chemical workers see health problems stemming from their jobs while only 24 percent of all workers do.

Chemical plant workers are quite naturally likely to cite chemicals when asked about the nature of their problems, although it is clear that most of the immediate worries are about toxic or caustic chemicals rather than possible cancer-causing chemicals.

To get a clearer idea of how different dangers stacked up, we asked workers to rate several dangers on scales for both concern and likelihood of actual exposure.

- Chemical workers were most concerned with exposure to toxic chemicals (33 percent rated it an extreme concern) and cancer-causing chemicals (31 percent).
- However, only 11 percent of the chemical workers felt it was "extremely likely" they would actually be exposed to cancer-causing chemicals.
- In terms of actual likelihood of exposure, chemical plant workers feel the problem they are most likely to face is exposure to smoke and fumes or dangerous chemicals.

Turning to the question of workplace safety, we see that most American workers feel that about the right amount of effort is already being made in improving the workplace.

- Seventy-one percent of the chemical workers see the right amount of effort being made while 27 percent see a need for more effort.
- Sixty-five percent of all workers see "about right" effort being made while only 24 percent see a need for more effort.
- Sixty-nine percent of the chemical workers and 54 percent of all workers see the average safety of the workplace as having improved in the last five years. Only 8 percent believed

safety standards are declining.

- Forty-eight percent of the chemical workers rate the efforts of their employers to maintain safety standards as excellent while another 34 percent see them as good. Only 17 percent rank the efforts as either "only fair" or "poor." Seventy-five percent of all workers see their employers' performance as excellent or good.
- Sixty-one percent of the chemical workers felt federal safety efforts are excellent or good.

Turning to the question of still further improving safety, we see a number of interesting points.

- Seventeen percent of all workers feel it would be very costly to reduce on-the-job risk to zero, but 34 percent see few or no costs associated with this level of reduction. On the other hand, chemical workers see the problem as more difficult with 29 percent assigning very high costs and only 19 percent seeing the costs as minimal.
- If their employers were ordered to reduce risks to zero, only 18 percent of the overall worker sample felt there was some chance this would force the employer out of business, but 30 percent of chemical workers felt this was a possibility.

This is a consistent pattern we will see throughout the data. Chemical plant workers, while concerned about danger and in favor of protection, are consistently more supportive of their industry's efforts, more likely to see the industry trying and more worried about the possible economic impact of regulation than are other workers.

- Forty-seven percent of the chemical workers would rather live with the risks of producing a potentially dangerous product while 32 percent would risk the loss of jobs by stopping the production of such a product. All of the workers in the national sample were much less decided on this question with 18 percent opting for a production halt and 32 percent opting for living with the risk.

Turning specifically to cancer-causing exposure, we find that chemical workers see a very great improvement in their workplace safety.

- Thirty-six percent say the situation with regard to workplace exposure is very much better while 39 percent say it is somewhat better. Only 8 percent see any decline in their workplace safety.
- Among all workers, 48 percent see some improvement while 10 percent see a decline.

When asked who was responsible for protecting the worker from exposure to cancer-causing substances, a majority of both groups put the responsibility squarely on the employer. Yet, 56 percent of all workers and 66 percent of the chemical plant workers endorsed the idea that labeling dangerous substances in the workplace was a viable solution to the problem — that workers would then be able to protect themselves. Furthermore, most Americans, when asked who should decide how decisions in this area should be made, chose some kind of private sector decision-making process — either business, labor unions, or the workers themselves — rather than government involvement and intervention.

Obviously, no one questions the idea of reducing exposure to cancer-causing substances. The policy question is really the more difficult one of deciding how far the risk of exposure should be reduced and at what cost.

- Forty percent of our sample said exposure should be reduced to the "lowest possible" level while only 26 percent opted for "zero" exposure.
- However, if "zero" exposure is chosen as the goal, most Americans and most chemical workers would back its enforcement regardless of cost although only 35 percent would back it if it costs jobs. Only 29 percent of the chemical workers would back it if the cost were a loss of jobs.
- One reason for the reluctance to pursue the "zero" exposure goal is the total lack of belief that it is feasible. Only 15 percent of all workers and 12 percent of the chemical workers believe it is possible.

Most people would back a general goal of reducing risks — but not "zero" exposure —

even if it meant higher consumer prices, and even if it meant some plant closings. Indeed, the data clearly show that the more modest the presentation of the goals, the more willing respondents are to pay the possible cost.

One further question sought to measure respondents' evaluations of how seriously they felt industry was trying to reduce cancer risk. Among the overall population, 36 percent felt that the industries were really trying while 48 percent felt industry was not trying. However, 60 percent of the chemical workers felt the industry was trying and only 30 percent felt it was putting profits first. This is another example of the generally supportive attitudes chemical workers seem to have toward their own industry.

Methodology

This analysis of the attitudes of the American public and chemical workers toward carcinogens and cancer risk is based on a survey conducted from February 3, 1978, to March 6, 1978. The survey consisted of personal, in-depth interviews with:

- a representative sample of 1,500 adult Americans.
- 500 adult Americans living in areas of high chemical industry concentration.
- 200 adult Americans employed in chemical plants.

The research methods employed in the survey were the same used in all Cambridge Reports surveys. The most important points in evaluating the survey are:

1. The general population sample was constructed to accurately reflect the adult population of the United States.
2. The areas of high chemical industry concentration were obtained from a U.S. Department of Commerce list of the 96 largest cities in chemical employment, based on the 1972 Census of Manufacturers group 28 industries. Areas were selected where the chemical employment was greater than 3 percent of the population.
3. The sample of chemical plant employees was drawn from the selected areas of high chemical industry concentrations. Employees were initially identified and located through a random telephone screening process and subsequently interviewed in their homes.
4. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports field staff. Work was validated to insure full and accurate completion.

Focus Groups

Eight qualitative focus groups were conducted prior to the national survey to get a sense of the attitudes of the general population, chemical plant workers, and neighbors of chemical plants toward cancer and general health and safety issues. The groups were conducted by Ken Struman of Walker and Struman Research, Inc. The eight groups were structured on the following basis:

DATE	LOCATION	TYPE OF PARTICIPANT
1/7/78	Glendale, CA	General population
1/9/78	Torrance, CA	Chemical plant workers
1/9/78	Torrance, CA	Chemical plant neighbors
1/10/78	Pasadena, TX	Chemical plant workers
1/10/78	Pasadena, TX	Chemical plant neighbors
1/11/78	Hartford, CT	General population
1/12/78	Edison, NJ	Chemical plant workers
1/12/78	Edison, NJ	Chemical plant neighbors

Walker and Struman have prepared a separate report on the findings of the focus groups.

Additional copies of this report are available from Shell Oil Company, Chemical Products Public Affairs, P.O. Box 2463, Houston, TX 77001.

The information contained in this report was current at the time of publication. Changing conditions could affect the future validity of conclusions derived from this material.